



Nutrition Education

Competencies for Students
Nutrition Basics for Educators

Why use nutrition content to help students master skills in math, language arts, science, health, history and social sciences? Perhaps the most compelling reason is that eating well can make a positive difference in a student's ability to achieve in school, and effective nutrition education can help improve students' eating habits. Other reasons for integrating nutrition education with core curriculum include:

- Undernutrition during any period of childhood can negatively impact children's behavior, school performance, and overall cognitive development. Effective nutrition education provides students and their families with information on gaining access to adequate food sources. Thus, in tandem with school meal programs, nutrition education can help maximize the learning potential of students.
- The health status of American children is declining as obesity rises to epidemic proportions. School-based nutrition education can play a key role in reversing this trend by helping students and their families learn to choose foods wisely and stay physically active.
- We all have to eat, and eating can be an enjoyable experience. Many students, at earlier ages than ever, are responsible for obtaining and/or preparing their own meals and snacks. Using nutrition as a medium to teach a variety of subjects capitalizes on this inherent interest in and need for food while promoting skills students can apply now and in the future.
- Learning activities involving food engage more of the senses and thus capture the attention of a greater variety of students than do simpler activities using just textbooks or pencil and paper. Nutrition education activities can be fun for both students and teachers.

Nutrition Competencies

The *Nutrition Competencies for California's Children Pre-Kindergarten through Grade 12* provide a guide to school districts and agencies in promoting effective, sequential, and comprehensive nutrition education. The California Department of Education's Nutrition Services Division, Education and Training Unit developed the competencies in response to a statewide nutrition education needs assessment conducted in 1998. Teachers, curriculum specialists, child nutrition program and food service professionals, and nutrition education specialists throughout the state contributed.

The complete draft document is available at: www.cde.ca.gov/nsd/nets/ne_index.htm. It contains "Nutrition Links" - learning activities and assessment tools that give ideas of how the nutrition competencies can be met while students master core subjects such as math and language arts. The nutrition links are grouped by competencies and by grade groupings. While not a comprehensive collection of learning activities, these links do provide some examples of how nutrition lessons can help students master skills related to core subject content standards. Use these links as a springboard for developing nutrition activities that connect with other academic subjects.

It is important to keep in mind that the links are only suggestions, and that the quality or effectiveness of nutrition education is at least as important as the quantity or frequency of nutrition-related activities in the classroom. According to literature reviews by Lytle (8) and Contento (9), successful eating behavior change programs for children exhibit six basic elements.

- Programs are behaviorally based and theory-driven.
- Programs for elementary school children incorporate family involvement.
- Programs for secondary school students include self-assessment of eating patterns.
- Programs include intervention in the school environment.
- Programs include intervention in the larger community.
- Programs with more instruction or intervention time have a greater impact.

The matrix on the next page outlines the nutrition competencies expected of students enrolled in pre-kindergarten through grade twelve. They cover ten areas critical to effective, comprehensive nutrition education, and reflect current knowledge of nutrition science and how eating habits affect health.

The competencies were developed to apply the nutrition concepts and unifying ideas of health literacy within the *Health Framework for California Public Schools*, specifically:

- Acceptance of personal responsibility for lifelong health
- Respect for and promotion of the health of others
- An understanding of the process of growth and development
- Informed use of health-related information, products and services

Note that the first four competencies incorporate the use of the *Food Guide Pyramid*, *Dietary Guidelines for Americans - 2000*, *Nutrition Facts* (food label), and *Children's Activity Pyramid*. These guidelines and tools are included in this section and form the foundation for current nutrition knowledge and practice and for the learning activities at all grade levels. Following these is an excerpt from the USDA's *Team Nutrition's Teacher Handbook: Tips, Tools and Jewels for Busy Educators* (1997). It provides basic background information for teaching nutrition education. The complete handbook is available through USDA's website at www.fns.usda.gov/tn.

The level at which students are expected to achieve each of the ten competencies is indicated for each grade group on the matrix using four Instructional Content Levels:

- I** = Introduce (introductory activities)
- D** = Develop (develop concepts previously introduced)
- M** = Mastery (full comprehension)
- A** = Application (ability to apply the knowledge as a life skill)

Most competency areas are introduced at the pre-kindergarten and kindergarten level, and all are introduced by the early elementary grades. Through learning activities that develop concepts further and encourage mastery, students in middle and high schools are expected to be able to apply what they have learned as a life skill. To varying degrees, application may be achieved at nearly all grade levels, since a goal of nutrition education is to empower students to make informed food choices that promote health.



NUTRITION COMPETENCIES FOR CALIFORNIA STUDENTS

Pre-Kindergarten through Grade 12

NUTRITION COMPETENCIES	Instructional Content Level by Grade Group ¹				
	PreK & K	Grade 1-3	Grade 4-5	Grade 6-8	Grade 9-12
1. Know and apply the Food Guide Pyramid, <i>2000 Dietary Guidelines for Americans</i> , recommended daily number of servings, serving sizes, and nutrient types and functions.	I	I-D	D-M	D-M-A	D-M-A
2. Understand and practice making healthy food choices including planning and preparing snacks and meals, assessing personal needs, and applying strategies to reach personal nutrition goals.	I	D	D-M-A	D-M-A	D-M-A
3. Evaluate the short and long term health benefits and risks of food choices and eating behaviors using the Food Guide Pyramid, <i>Dietary Guidelines for Americans</i> , and Nutrition Facts labels.	I	I-D	D-M	M-A	A
4. Demonstrate food handling and personal hygiene to prevent foodborne illness. Handling includes growing, processing, preserving, transporting, storing, preparing, and serving.	I	D-M	D-M	M-A	M-A
5. Identify and explore factors influencing food intake including family, friends, culture, marketing, emotions, sensory stimuli, and food availability.	I	I	D-M	D-M-A	M-A
6. Describe the influence of local, national, and global factors on the quantity and quality of food, including agricultural science, ecology, technology, food safety (see #4), politics, government regulations, and economics.		I	D-M	D-M-A	M-A
7. Explain how nutritional needs vary throughout the life cycle.	I	I-D	D-M	D-M-A	D-M-A
8. Explore factors that contribute to achieving and maintaining a healthy body and positive body image such as physical activity, food choices, genetics, and self-esteem.	I	I-D	D-M	D-M-A	D-M-A
9. Identify and know how to access scientifically valid nutrition information and nutrition services.		I-D	D-M	D-M-A	D-M-A
10. Explore the variety of food-related careers.	I	I-D	D-M	D-M-A	D-M-A

¹ **Instructional Content Levels:**

I = Introduce (Introductory activities)

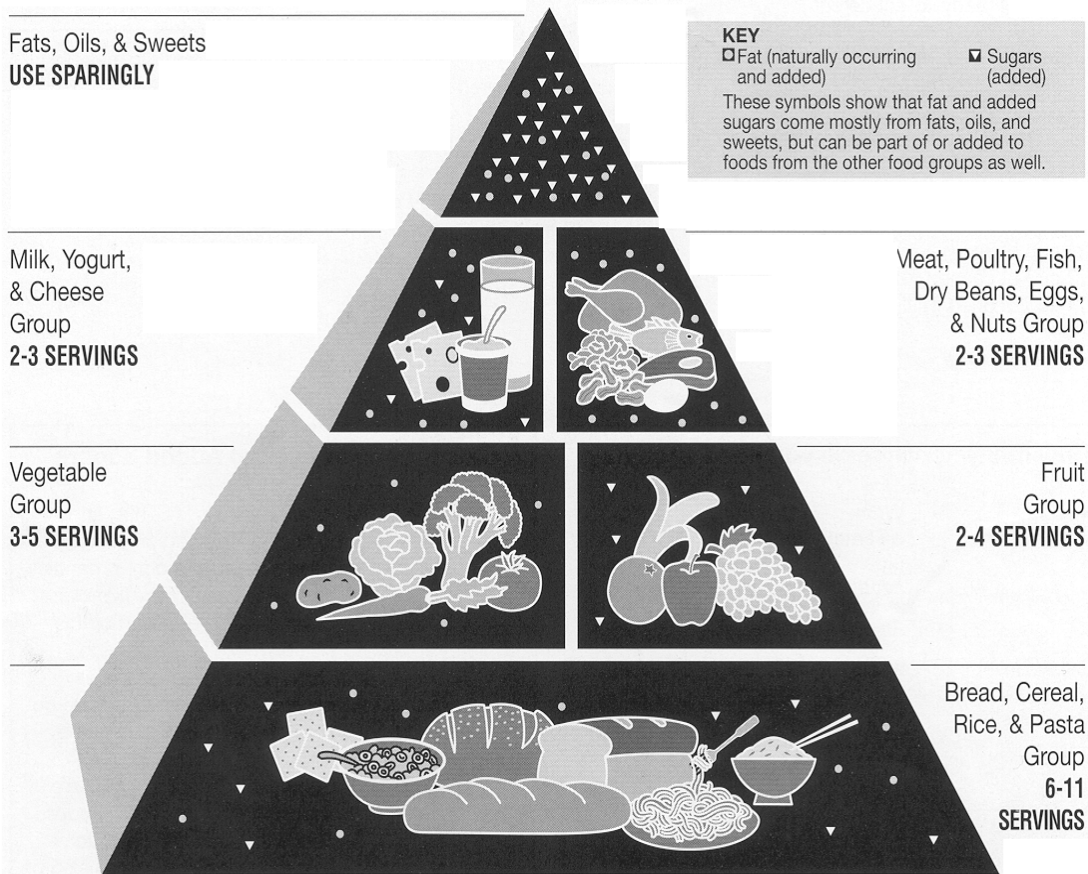
D = Develop (Develop concepts previously introduced)

M = Mastery (Full comprehension)

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Food Guide Pyramid

A Guide to Daily Food Choices



Use the Food Guide Pyramid to help you eat better every day. . . the Dietary Guidelines way. Start with plenty of Breads, Cereals, Rice, and Pasta; Vegetables; and Fruits. Add two to three servings from the Milk group and two to three servings from the Meat group.

Each of these food groups provides some, but not all, of the nutrients you need. No one food group is more important than another — for good health you need them all. Go easy on fats, oils, and sweets, the foods in the small tip of the Pyramid.

To order a copy of "The Food Guide Pyramid" booklet, send a \$1.00 check or money order made out to the Superintendent of Documents to: Consumer Information Center, Department 159-Y, Pueblo, Colorado 81009.

U.S. Department of Agriculture, Human Nutrition Information Service, August 1992, Leaflet No. 572

How to Use The Daily Food Guide

What counts as one serving?

Breads, Cereals, Rice, and Pasta

1 slice of bread
1/2 cup of cooked rice or pasta
1/2 cup of cooked cereal
1 ounce of ready-to-eat cereal

Vegetables

1/2 cup of chopped raw or cooked vegetables
1 cup of leafy raw vegetables

Fruits

1 piece of fruit or melon wedge
3/4 cup of juice
1/2 cup of canned fruit
1/4 cup of dried fruit

Milk, Yogurt, and Cheese

1 cup of milk or yogurt
1-1/2 to 2 ounces of cheese

Meat, Poultry, Fish, Dry Beans, Eggs, and Nuts

2-1/2 to 3 ounces of cooked lean meat, poultry, or fish
Count 1/2 cup of cooked beans, or 1 egg, or 2 tablespoons of peanut butter as 1 ounce of lean meat (about 1/3 serving)

Fats, Oils, and Sweets

LIMIT CALORIES FROM THESE especially if you need to lose weight

The amount you eat may be more than one serving. For example, a dinner portion of spaghetti would count as two or three servings of pasta.

How many servings do you need each day?

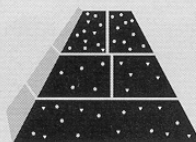
	Women & some older adults	Children, teen girls, active women, most men	Teen boys & active men
Calorie level*	about 1,600	about 2,200	about 2,800
Bread group	6	9	11
Vegetable group	3	4	5
Fruit group	2	3	4
Milk group	**2-3	**2-3	**2-3
Meat group	2, for a total of 5 ounces	2, for a total of 6 ounces	3 for a total of 7 ounces

*These are the calorie levels if you choose lowfat, lean foods from the 5 major food groups and use foods from the fats, oils, and sweets group sparingly.

**Women who are pregnant or breastfeeding, teenagers, and young adults to age 24 need 3 servings.

A Closer Look at Fat and Added Sugars

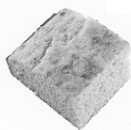
The small tip of the Pyramid shows fats, oils, and sweets. These are foods such as salad dressings, cream, butter, margarine, sugars, soft drinks, candies, and sweet desserts. Alcoholic beverages are also part of this group. These foods provide calories but few vitamins and minerals. Most people should go easy on foods from this group.



Some fat or sugar symbols are shown in the other food groups. That's to remind you that some foods in these groups can also be high in fat and added sugars, such as cheese or ice cream from the milk group, or french fries from the vegetable group. When choosing foods for a healthful diet, consider the fat and added sugars in your choices from all the food groups, not just fats, oils, and sweets from the Pyramid tip.



DIETARY GUIDELINES FOR AMERICANS



AIM FOR FITNESS...

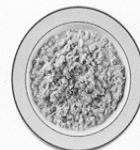
- ▲ Aim for a healthy weight.
- ▲ Be physically active each day.

BUILD A HEALTHY BASE...

- Let the Pyramid guide your food choices.
- Choose a variety of grains daily, especially whole grains.
- Choose a variety of fruits and vegetables daily.
- Keep food safe to eat.

CHOOSE SENSIBLY...

- Choose a diet that is low in saturated fat and cholesterol and moderate in total fat.
- Choose beverages and foods to moderate your intake of sugars.
- Choose and prepare foods with less salt.
- If you drink alcoholic beverages, do so in moderation.



...for good health

The New Food Label at a Glance

The new food label will carry an up-to-date, easier-to-use nutrition information guide, to be required on almost all packaged foods (compared to about 60 percent of products up till now). The guide will serve as a key to help in planning a healthy diet.*

Serving sizes are now more consistent across product lines, stated in both household and metric measures, and reflect the amounts people actually eat.

The list of **nutrients** covers those most important to the health of today's consumers, most of whom need to worry about getting too much of certain items (fat, for example), rather than too few vitamins or minerals, as in the past.

The label of larger packages must now tell the number of calories per gram of fat, carbohydrate, and protein.

Nutrition Facts

Serving Size 1/2 cup (114g)

Servings Per Container 4

Amount Per Serving

Calories 90 **Calories from Fat** 30

% Daily Value*

Total Fat 3g **5%**

Saturated Fat 0g **0%**

Cholesterol 0mg **0%**

Sodium 300mg **13%**

Total Carbohydrate 13g **4%**

Dietary Fiber 3g **12%**

Sugars 3g

Protein 3g

Vitamin A 80% • Vitamin C 60%

Calcium 4% • Iron 4%

* Percent Daily Values are based on a 2,000 calorie diet. Your daily values may be higher or lower depending on your calorie needs:

		Calories	2,000	2,500
Total Fat	Less than	65g	80g	
Sat Fat	Less than	20g	25g	
Cholesterol	Less than	300mg	300mg	
Sodium	Less than	2,400mg	2,400mg	
Total Carbohydrate		300g	375g	
Fiber		25g	30g	

Calories per gram:

Fat 9 • Carbohydrate 4 • Protein 4

New title signals that the label contains the newly required information.

Calories from fat are now shown on the label to help consumers meet dietary guidelines that recommend people get no more than 30 percent of their calories from fat.

% Daily Value shows how a food fits into the overall daily diet.

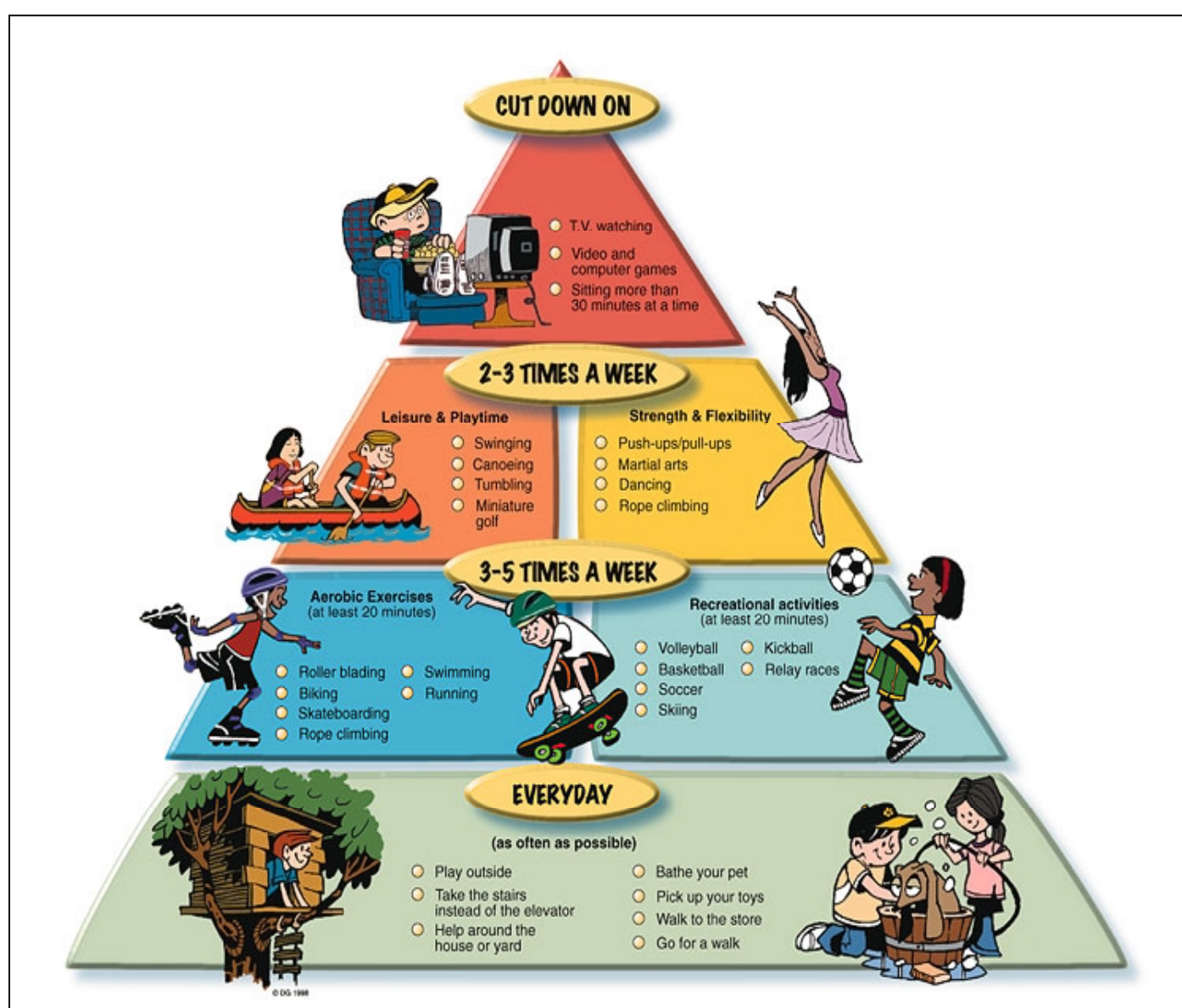
Daily Values are also something new. Some are maximums, as with fat (65 grams or less); others are minimums, as with carbohydrate (300 grams or more). The daily values for a 2,000- and 2,500-calorie diet must be listed on the label of larger packages. Individuals should adjust the values to fit their own calorie intake.

* This label is only a sample. Exact specifications are in the final rules.
Source: Food and Drug Administration 1993

Children's Activity Pyramid

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